Title (en)

NON-AQUEOUS ALKALI METAL BATTERY HAVING AN IMPROVED CATHODE

Publication

EP 0408249 A3 19910703 (EN)

Application

EP 90307348 A 19900705

Priority

US 37750489 A 19890710

Abstract (en)

[origin: EP0408249A2] This invention relates to a process of fabricating a rechargeable non-aqueous cell and to a cell produced by the process. The cell includes a unique laminated cathode structure. Other structural features of the non-aqueous cell including anode, non-aqueous electrolyte and separator, are generally conventional. The novel cathode is composed of a current collector consisting of an unperforated metal foil to which are bonded mats of cathode active material, selected from transition-metal chalcogenides. In the process of forming the cathode, a non-perforated metal foil, such as aluminum, is coated with a layer of bonding polymer and after the mats of cathode-active material, such as niobium triselenide, are placed on both sides of the metal foil, the composite is compacted, preferably by passing between rollers. Electronic conduction is enhanced by either admixing carbon black with the polymer or coating that surface of the mats which is to be in contact with the metal foil, with a thin layer of carbon black. This design results in cells which show a distinct improvement in energy at higher rate discharges, e.g. at 3-4A, or at lower temperatures, e.g. -20 DEG C, lower cost and weight than cells with conventional cathode collector having screen or grid of expanded metal, e.g. Ni, and are expected to ameliorate internal shorts resulting from the use of ex-met grids.

IPC 1-7

H01M 4/02; H01M 4/66

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CPC (source: EP US)

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Citation (search report)

- [A] DE 2009814 A1 19701001
- [AD] US 3864167 A 19750204 - BROADHEAD JOHN, et al

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FR2755795A1; WO9821768A1

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DOCDB simple family (publication)

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